From: Gary Moore
To: Wright, Jeff
Subject: Re: FW: Delta Shipyards
Date: 10/05/2012 04:17 PM

Jeff:

Lets try Natural Neighbors first.

Thanks

Gary Moore
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▼ "Wright, Jeff" ---10/05/2012 03:21:48 PM---Here's Jason's response regarding the difference between Contour and Kriging. [cid:image002.jpg@01CD

From: "Wright, Jeff" <Jeff.Wright@WestonSolutions.com>
To: Gary Moore/R6/USEPA/US@EPA
Cc: "Bordelon, David" <David.Bordelon@WestonSolutions.com>
Date: 10/05/2012 03:21 PM
Subject: FW: Delta Shipyards

Here's Jason's response regarding the difference between Contour and Kriging.

Jeff Wright, CHMM
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9897213

From: Wilder, Jason
Sent: Friday, October 05, 2012 2:49 PM
To: Wright, Jeff
Subject: RE: Delta Shipyards

Hey Jeff-

No problem; below are the differences.

Natural Neighbors – Is a basic interpolation method that is widely used to generate a quick, first-order iso-concentration contours. It's strengths are that there is not a great deal of user-interaction and it creates iso-concentrations contours based on a well-documented, scientifically accepted weighted, moving average, algorithm. It's very handy if the goal is to just visualize the distribution of contamination.

Kriging - Is an advanced geostatistical procedure that generates an estimated or predictive concentration and variability surfaces, which then can be converted to iso-concentration contours. More so than other interpolation methods, especially Natural Neighbors, Kriging requires a thorough investigation of the underlying statistical behavior of the analytical values themselves before contouring can begin. There are cases where Kriging isn't the best interpolation method, but it is widely accepted as EPA's "go-to" method for spatially analyzing environmental data.

Both methods will put iso-concentration contours on a map and will give the viewer a visual sense of the spatial distribution of analytical concentrations. Kriging has more steps, but theoretically will tell more of the story and is more precise if

implemented correctly.

I haven't seen the data, but my sense either way will work. Kriging would require a more time to complete per map since it can be an iterative process whereas Natural Neighbors would be quicker. I can assist Patrick Bond with Kriging if need be.

Thanks,
Jason.

From: Wright, Jeff
Sent: Friday, October 05, 2012 2:13 PM
To: Wilder, Jason
Subject: FW: Delta Shipyards

Jason –
I spoke with you yesterday regarding those Krienging analysis maps for Gary Moore. As indicated in his email, he had a question regarding the difference between those and Contour Maps. I know we kind of discussed the two, but could you please give him a brief description on the difference between the two? I don't think I would be entirely accurate if I tried to describe the differences.

Thanks for your help.

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From: Gary Moore [mailto:Moore.Gary@epamail.epa.gov]
Sent: Friday, October 05, 2012 2:03 PM
To: Wright, Jeff
Subject: RE: Delta Shipyards

Jeff:

I am not sure what the difference is between the kreiging maps vs. the contour maps?

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From: "Wright, Jeff" <Jeff.Wright@WestonSolutions.com>
To: Gary Moore/R6/USEPA/US@EPA
Cc: "Bordelon, David" <David.Bordelon@WestonSolutions.com>
Date: 10/05/2012 01:40 PM
Subject: RE: Delta Shipyards

Gary –
Jason Wilder in Austin said that can run the Krienging statistical analysis. Due to current obligations, he would not be able to start until Wednesday of next week. Honestly, I'm not familiar with it, but according to Jason it can take a

number of hours depending on the amount of contaminates and individual depths analyzed. Jeff Criner indicated that you had Patrick Bonds produce some Contour Maps for May Cooperage, which could be produced with less LOE. If you do decide to have the Krienging analysis maps produced, I would suggest that we have a conference call with Jason to define what deliverable is required. I've got a call in to Raj to see about the 3D maps.

Thanks,

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From: Gary Moore [mailto:Moore.Gary@epamail.epa.gov]
Sent: Thursday, October 04, 2012 12:41 PM
To: Wright, Jeff
Subject: Delta Shipyards

Jeff:

Can you guys produce a map that shows where the contamination is based upon the EPA RSLs and the LA Recap. Both Industrial. You will probably have to show it as a krieging analysis based upon the

sampling depths. At some point we may want to do a 3 D but you guys will have to let me know what you can do.

Thanks

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(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

********** ATTACHMENT NOT DELIVERED **********